

## **EPA Wetland Development Grant Program Description**

Since 1990 US Environmental Protection Agency has administered a federal grant program to support state, tribal and local efforts to protect wetlands by providing funds to develop new or refine existing wetland protection, management or restoration programs.

The goals of the EPA's wetland program and the Clean Water Action Plan are to increase the quantity and quality of wetlands in the US by conserving and increasing wetland acres and improving wetland health.

The types of projects funded through the grant program are very diverse. In the past state, tribes and local governments have pursued a wide range of activities from very broad policy or regulatory projects to development of specific technical approaches/methods for wetland health or restoration. A list of projects funded in Montana is below. A detailed project description and project progress updated to 1/1/2000 follows.

Montana DEQ administers the state and local government portion of the grant program, EPA administers the tribal government grant program. The general yearly grant cycle is as follows:

August	State and local proposals are solicited.
October	Proposals are due to DEQ.
November	Proposals are reviewed by the Montana grant review team.
November	Proposals are revised by project sponsors and resubmitted to DEQ.
December	Proposals are ranked and forwarded to EPA.
June	Funding for successful proposals is available.

## **Environmental Protection Agency Wetland Grant Projects Funded in Montana**

### **FFY 2002 EPA Wetland Development Grant to Montana DEQ**

1. Montana DEQ – Developing a Wetland Monitoring and Assessment Program: Project Leadership and Implement Wetland Protection in Montana.
2. University of Montana – Developing Wetland Biological Assessment Criteria for Amphibians and Aquatic Reptiles.
3. Montana NHP - Developing Wetland Biological Assessment Criteria for Vegetation – Middle Milk watershed.
4. University of Montana - Developing Wetland Biological Assessment Criteria for Vegetation, Soils and Land Use – Red Rocks watershed.
5. Flathead Lakers - Critical Lands Project: Build Cooperation and Support to Protect Critical Lands I the Flathead Watershed.

### **FFY 2001 EPA Wetland Development Grant to Montana DEQ**

1. Montana DEQ – Coordinate and Expand Wetland Conservation in Montana.
2. Montana DFWP – Developing and Implementing the Montana Wetlands Legacy Program.

3. Montana NHP – Inventory and Prioritization of Ecologically Significant and Highly Restorable Wetlands and Riparian Areas in the Missouri River Headwaters.
4. Gallatin Local Water Quality District – Wetland Resource Assessment of the Gallatin Valley and Bozeman Creek Watershed.
5. Montana Natural History Center - Missoula Valley Wetland Stewardship and Education Program.
6. Bitter Root Water Forum – Creating a Citizen Based Program for the Inventory of Bitterroot Valley Wetland and Riparian Corridors.
7. Montana Watercourse – Outreach Education for Wetlands Protection in Montana.

#### **FFY 2000 EPA Wetland Development Grant to Montana DEQ**

1. Montana Department of Environmental Quality - Wetland Conservation in Montana.
2. Montana Natural Heritage Program - Inventory and Prioritization of Ecologically Significant Wetlands and Riparian Areas in Montana for Conservation, Mitigation and Restoration.
3. Montana Watercourse - Facilitating Landowner and Local Government Stewardship of Montana's Wetlands.
4. Montana Wetland Trust - A Key to Wetland Plant Genera.
5. Flathead Basin Commission - Flathead Basin Volunteer Monitoring.
6. Lewis & Clark County Water Quality Protection District - A Wetlands Community Partnership Project - Phase II.
7. River and Wetland Assessment - Training of HGM Functional Assessment of Wetlands to State, Tribal and Local Governments, Non-profits and Volunteer Wetland Monitors, Scientists, and Managers.

#### **FFY 1999 EPA Wetland Development Grant to Montana DEQ**

1. Montana Department of Environmental Quality – Increasing Wetland Conservation in Montana.
2. Montana Watercourse - Fostering Wetlands Stewardship in Montana.
3. Montana Local/Tribal Technical Assistance Program - Maintenance of Unpaved Roads Near Wetlands.
4. Montana State Library, Natural Heritage Program - Montana Wetland Inventory and Assessment Prioritized for Conservation and Mitigation Applications: Completion of the Flathead Watershed.
5. Montana Audubon - An Evaluation of Wetland Impacts in the State of Montana and Initiation of Assessment of Cumulative Impacts in the Yellowstone River Basin.
6. University of Montana, Geology Department - Preserving the Function of Unique Wetlands Critical to the Survival of Water Howellia in the Swan Valley.

#### **FFY 1998 EPA Wetland Development Grant to Montana DEQ**

1. Montana Department of Environmental Quality - Wetlands Conservation Strategy Implementation.
2. Montana State Library - Montana Wetland Data Access Project.
3. Lewis and Clark County Water Quality Protection District - Wetland Resource Assessment: A Helena Community Partnership.

4. Montana Watercourse - Information and Education for Wetland Stewardship.
5. University of Montana, Flathead Lake Biological Station - The Hydrologic Approach to the Functional Assessment of Wetlands: Field Testing of Models and Analyses of Reference Data.
6. Missoula Office of Planning and Grants, Floodplain Program - Missoula County Riparian Wetland Inventory and Education Program.
7. Montana Department of Natural Resources - Wetland/Riparian Restoration.

**FFY 1997 EPA Wetland Development Grant to Montana DEQ**

1. Montana Department of Environmental Quality - Wetlands Conservation Strategy Development.
2. Montana Watercourse - Promoting Montana's Wetland Strategy Through Information and Education.
3. NRIS, Water Information System - Montana Wetland Information Clearinghouse.
4. Montana Department of Environmental Quality - Developing Bioassessment Protocols for Montana's Wetlands.
5. University of Montana, Flathead Lake Biological Station -Testing HGM Functional Assessment Models.
6. Montana Natural Heritage Program -Wetland Inventory and Assessment.

**FFY 1996 EPA Wetland Development Grant to Montana DEQ**

1. Montana Department of Environmental Quality -Wetlands Water Quality Biocriteria Development and Integration with HGM Wetlands Functional Assessment Methods.
2. Montana Department of Natural Resources and Conservation -Riparian/Wetlands Education.
3. The Watercourse -Phase 5: Community Based Wetland Enhancement and Protection Initiative.
4. Montana Watercourse -Montana Wetland Protection Foundation.
5. Montana State Library, Natural Resources Information Service -Metadata Collection.
6. Montana Riparian and Wetland Association -MRWA Management Training.
7. Montana Wetlands Trust -Mitigation Banking Training.

**FFY 1995 EPA Wetland Development Grant to Montana Department of Health and Environmental Sciences**

1. Montana Department of Environmental Quality - Wetlands Strategy.
2. Montana Department of Natural Resources and Conservation - Riparian/Wetlands Education.
3. The Watercourse - Phase 4: Wetland Leadership Training and Network Building Initiative.
4. Montana Watercourse - Montana Wetlands Models and Marvels.
5. Montana Riparian Wetland Association - Training.
6. Montana Department of Transportation - Wetland Mitigation.
7. Montana State University - Extension Forestry.

**FFY 1994 EPA Wetland Development Grant to Montana Department of Health and Environmental Science.**

1. Montana Department of Natural Resources and Conservation - Upper Missouri Water Management.
2. Montana Department of Health and Environmental Sciences - Water Quality Standards for Wetlands.
3. Montana Riparian and Wetland Association - Correlation of Classification to Wetland Indicators.
4. The Watercourse - Phase 3: Wetlands Education Leadership Training and Networking Initiative.

**FFY 1993 EPA Wetland Development Grant to Montana Department of Health and Environmental Sciences.**

**FFY 1992 EPA Wetland Development Grant to Montana Department of Health and Environmental Sciences.**

**FFY 1991 EPA Wetland Development Grant to Montana Department of Natural Resources and Conservation.**

**MDEQ Semi-annual project report to EPA detailing project descriptions and project accomplishments.**

MDEQ Semi-Annual Progress Report  
EPA Wetland Protection Grant Program  
Federal Fiscal Year 1999 (4/15/98-3/31/02)  
CD 998117-07

**Report Date - July 1, 2000**

**FFY 1999 Grant to DEQ**

The Montana Department of Environmental Quality received a Wetland Protection Development Grant from EPA for \$321,397 as stated in the Wetland Protection Assistance Agreement awarded April 15, 1999. This grant provided funding for six Montana wetland program development activities and expires March 31, 2002. Two projects have been completed, one final report is forthcoming.

**1. MDEQ – Increasing Wetland Conservation in Montana.**

**Project Narrative**

Provides \$73,435 (+ \$24,478 non-federal match) to: 1) Coordinate and oversee the EPA State Wetlands Protection Grant Program and other potential wetlands conservation funding sources; 2) Lead and direct the Montana Wetlands Council; 3) Promote and coordinate State agency activities in support of wetlands conservation activities; 4) Further the National Wetland Inventory and data base on the status of wetlands in Montana; 5) Establish a tracking system for 401 certification and wetland restoration and integrate into GIS based watershed system; and 6) Participate in a strategy for developing wetlands water quality standards. The project period is July 1, 1999 to June 30, 2000.

## Project Progress

Activity and progress toward increased wetland protection in Montana has occurred in each of the above areas.

- 1) The FFY 2000 grant was awarded to DEQ. Six projects for wetland development activities have been contracted, one project still needs to modify the work plan. In addition, two projects were contracted from FFY1998 headquarter funds to local government watershed projects involving wetland inventory and assessment and protection plans (project was originally awarded to DNRC but not implemented). Worked with ongoing project sponsor to complete previously contracted projects. In the last year two years, 25 wetland projects have been completed. There are 3 ongoing projects remaining from 1995, 1996 and 1997. Eleven projects from 1998 and 1999 are on track and work is progressing. Six new projects have been started under the FFY 2000 grant.
- 2) Held three Montana Wetland Council meetings 10/21/99, 1/27/00 and 5/23/00. Developed agendas including major pieces focusing on Wetland Assessments, Wetlands and Water Rights, and Wetlands and Floodplains. Provided meeting summaries to approximately 300 participants on the Wetland Council mailing list. Instituted electronic summaries and agendas to those with e-mail (about half of the mailing list).
- 3) Participated in bimonthly meetings of the Montana Department of Transportation Interagency Wetland group and brought wetland protection initiatives before the group each meeting. Researched and developed the idea of a Montana Wetland Legacy and along with the Migratory Bird Coordinator for Fish, Wildlife and Parks held 2 day-long meetings this spring to explore and further develop the legacy concept. Hosted Alex Chappell of the Colorado Wetland Legacy to discuss the Colorado program with wetland leaders in Montana.
- 4) Initiated and have received \$200,000 in funding for National Wetland Inventory mapping in rapidly changing land-use areas of Montana. Montana Department of Transportation provided funding. Contracted one project for NWI mapping in the Gallatin Valley and the Bitterroot and Clark Fork River corridors. Working to locate matching funds for other NWI projects in Montana.
- 5) Worked with the State Library Water Information System to continue to expand information available over the web based Wetland Clearinghouse. Expanded the Wetland Clearinghouse contract (DEQ contract #280017) to develop a much broader and more useful database of tracking impact activity and accurate locations of all 404 permits, many of which required 401 certification. Considerable time was spent chairing the Wetland Data Base subcommittee to make this project happen.
- 6) Researched Montana's biocriteria work in wetlands and how to determine if a wetland can support beneficial use; Proposed Beneficial Use Support Decision Guidelines and Sufficient Credible Data for Making Beneficial Use Support Decisions. Organized Wetland Council presentation on wetland water quality standards. This project has been completed.

## **2. Montana Watercourse - Fostering Wetlands Stewardship in Montana. (DEQ contract #290087)**

### Project Narrative

Provides \$53,918 (+ \$31,000 non-federal match) to promote stewardship of Montana's wetlands by providing public education and information to increase school teachers and students understanding of the benefits wetland provide, and to provide knowledge

regarding options and opportunities for wetland conservation. These goals will be achieved by conducting twenty five Wonder of Wetlands (WOW) workshops for K-12 teachers, including providing WOW activity guides to 500 teachers; conducting a 3-5 day watershed tour for teachers that highlights wetlands restoration, enhancement and protection; promoting five community wetlands festivals with five \$1,000 mini-grants; and identifying, announcing and publicly recognizing two private landowners who are model wetlands stewards.

#### Project Progress

Montana Watercourse is currently working on their FFY98 contract and recently completed the FFY97 contract. They plan to begin work on the FFY99 contract on July 1, 2000. This project is scheduled to be completed by June 1, 2001.

### **3. Montana Local/Tribal Technical Assistance Program - Maintenance of Unpaved Roads Near Wetlands. (DEQ contract #290069)**

#### Project Narrative

Provides \$18,000 (+\$10,000 non-federal match) to develop and refine a training course entitled "Maintenance of Unpaved Roads Near Wetlands" regarding road maintenance best management practices near streams and wetlands. The course will be advertised in newsletters and presented at four Road Maintenance workshops around the State.

Presentations will also be made at existing annual conferences of the Montana Association of Counties, Montana Association of County Road Supervisors, Montana League of Cities and Towns, Montana Dept. of Transportation Maintenance, and at BIA and Tribal meetings.

#### Project Progress

The project sponsor developed a course for instructing local transportation official and motor grader operators on proper techniques for reducing sedimentation in wetlands when performing road maintenance. The Gravel Roads Part II – Back to the Basics manual now has a new chapter, Chapter 5: Maintenance of Unpaved Roads Near Wetlands. It was developed with a committee of wetland experts and road engineers and has been distributed to all 56 counties along with a letter introducing the manual and upcoming training.

In addition to the articles published and training classes taught and reported on in the last semi-annual report, nine additional classes were conducted through April: Fort Benton, Great Falls, Glasgow, Columbus, Forsyth, Ennis, Helena, Havre and at the Montana Association of County Road Supervisors Conference & Seminar. The DEQ Wetland Coordinator attended the Helena Wetland and Gravel Road Maintenance Activities class on 4/13/00. Twenty-four county road grade operators attended the day-long training. The training on best management practices for maintaining gravel roads near streams and wetlands was informative, accurate and targeted to road grader operators. The project sponsor/trainer knows his audience and the road maintenance business very well and relates to the attendees in a positive and supportive fashion.

The project sponsor is serving on a National Association of County Engineer's committee to rewrite a manual on Drainage and Storm Water Management. The material developed

for this grant will be included in the new manual distributed nationally. This project was completed by April 30, 2000. The final report is forthcoming.

**4. Montana State Library, Natural Heritage Program - Montana Wetland Inventory and Assessment Prioritized for Conservation and Mitigation Applications: Completion of the Flathead Watershed. (DEQ contract #290061)**

**Project Narrative**

Provides \$99,337 (+ \$34,781 non-federal match) to complete the field inventory and ecological evaluation of high quality wetlands in the North Fork Flathead Watershed and to perform a similar inventory on the upper Yellowstone drainages (including the Shields, Stillwater, Clark's Fork Yellowstone, Upper Yellowstone Lake Basin and Upper Yellowstone downstream from the Park County Line). The results will be summarized in a report that includes a systematic overview and assessment of the wetland diversity, quality, condition, and sensitive species in the study area, as well as identification of priority opportunities for wetland protection, mitigation, and restoration. Results will also be presented to key watershed partners and selected results and summaries will be made available through the Internet.

**Project Progress**

The QAPP was approved by EPA. A near final report was prepared for the North Fork Flathead watershed, it includes a systematic overview of the NF Flathead Inventory including an assessment of the diversity, quality, condition and sensitive species of 10 wetland sites. Color GIS maps and figures were prepared for the final report. Text fields for 42 high quality plat community Element Occurrence Records were prepared and are ready to import into the Heritage Program's Biological Conservation Database. Site Basic Records were completed for 10 sites in the North Fork Flathead watershed and are ready to import in BCD. Wetland site descriptions were formatted as Appendix E in the final report. Color photographs depicting significant wetland sites and common wetland communities were digitally scanned and organized in the Slide Inventory Database. Source abstract records were compiled and added to the reference section of the report. Marc Jones replaced Jack Greenlee as the wetland field ecologist for this project. This project has been extended 6 months and is scheduled to be completed by December 31, 2000.

**5. Montana Audubon - An Evaluation of Wetland Impacts in the State of Montana and Initiation of Assessment of Cumulative Impacts in the Yellowstone River Basin. (DEQ contract # 200011)**

**Project Narrative**

Provides \$27,924 (+ \$9,394 non-federal match) for two components. 1) Perform a statewide review of 404 permit files for the purpose of compiling, summarizing, and reporting 404 permit data (including types of 404 permits used; locations of permitted activities; acres of wetlands or linear feet of riverbank affected; mitigation; permit denials or withdrawals; 401 certification status; enforcement actions; etc.). 2) Develop a demonstration project in the Yellowstone River Basin to initiate assessment of cumulative impacts of development activities.

This will be carried out by cataloging all types of stream/wetland permits in the Basin (404 permits, 310 permits, 3a authorizations, floodplain development permits, etc.). Final products will consist of a final report, and database on permitted activities; laypersons guide to findings presentation of findings to local governments; GIS maps illustrating extent of permits issued, and recommendations to improve inter-governmental coordination and information exchange.

#### Project Progress

In January, Audubon received the Army Corps of Engineers' database for years 1994-1999 from NRIS (DEQ # 280087). The remaining data (1990-1993) is scheduled to be complete June 30, 2000. Therefore Goal 1, review of the Corps permit program, will begin after the NRIS grant is complete.

For Goal 2, Yellowstone demonstration project, Audubon learned, restructured and simplified the Corps' database for Yellowstone County. This involved reducing 8 relational databases with 236 data fields to eliminate unused fields and create one page of usable data. Audubon created a GIS database for the Yellowstone County Floodplain Administrator that locates permitted projects on a map and contains a summary of each project. The County Floodplain Administrator is actively using this new database as an impact management tool. This project is scheduled to be completed by September 30, 2001.

### **6. University of Montana, Geology Department - Preserving the Function of Unique Wetlands Critical to the Survival of Water Howellia in the Swan Valley. (DEQ contract #290068)**

#### Project Narrative

Provides \$48,783 (+ \$20,604 non-federal match) to investigate the groundwater hydrology of Water Howellia wetlands in the Swan Valley of Montana. Water Howellia (*Howellia aquatilis*) is an obligate wetland plant that is classified as a "threatened species" under the Federal Endangered Species Act. The largest concentration of Water Howellia in the world is found in wetlands of the Swan Valley of Flathead and Lake Counties, Montana. Water Howellia is an annual species that requires flooded conditions in the spring to grow as a submerged aquatic plant, and then lowering of the water level in the fall to expose dried wetland margins needed for seed germination.

This project will investigate the ground and surface water flow and evaporation and precipitation regimes as they interact with plant germination and growth so that the character and source of wetlands sustaining this threatened plant is better understood. This will also provide understanding and knowledge leading to better assessment of land use impacts upon Water Howellia wetlands in the developing Swan Valley, and ultimately their protection.

#### Project Progress

Four representative wetland sites in the Swan Valley have been instrumented with continuous surface-water and groundwater stage gauges, piezometers, and monitoring wells; Beaver Creek, Holland Lake, Condon and Piper Creek. Field groundwater data



from the wetland margins and nearby wells were collected biweekly, 5/27 – 9/18 and again in early October. Wetland pH and conductivity data were collected at each site visit. Surveying of wetland topography, wetland basins, and instrument elevations was completed in late November. Cores from wetlands were collected in October for characterization and determination of hydrologic properties. A Water Howellia field survey was conducted in August to characterize annual species' population trends as they relate to the hydrological conditions. Water quality analysis for a limited number of groundwater and surface water samples were completed. Data suggest that shallow ground and surface water have similar origins. However deeper groundwater has higher TDS. At this time, it appears that direct evaporation is the major factor controlling water loss in these wetlands. However, analysis of diurnal change is needed and additional basin area surveying is needed to estimate the influence of precipitation and snow melt on the wetland water balance. This project is scheduled to be completed by September 30, 2001.

MDEQ Semi-Annual Progress Report  
EPA Wetland Protection Grant Program  
Federal Fiscal Year 1998 (5/15/98-12/31/01)  
CD 998117-06-3  
Report Date - July 1, 2000

### **FFY 1998 Grant to DEQ**

The Montana Department of Environmental Quality received a Wetland Protection Development Grant from EPA for \$398,011, as stated in the Wetland Protection Assistance Agreement awarded May 15, 1998. This grant provided funding for seven Montana wetland program development activities and expires December 31, 2001. Two projects have been completed, one final report is forthcoming. Two projects were recently contracted.

#### **1. MDEQ - Wetlands Conservation Strategy Implementation.**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **2. Montana State Library - Montana Wetland Data Access Project. (DEQ contracts #280087 and #200065)**

##### **Project Narrative**

Provides \$24,000 (+ \$8,620 non-federal match) to design, in consultation with state and federal agencies, a web-based system for the collection and dissemination of basic information on Montana wetlands. This system will be designed as part of the Montana Wetlands Clearinghouse web-site, and linked to the Montana Natural Heritage Program web-site for access to detailed ecological data being gathered on high quality wetlands. This system will provide a structure for sharing statewide information on the status of wetlands and wetland assessment efforts, based on National Wetland Inventory Maps available in Montana.

This project was modified on October 26, 1999; \$17,000 was moved from the contract with the Montana Natural Heritage Program (#280087) to a new contract with the

Montana Water Information System (#200065), both within the Montana State Library. The purpose of the modification was to provide a collaborative approach to designing and developing the data access system and better integrate it into the Montana Wetland Clearinghouse.

#### Project Progress

A database design with detailed revised project work plan was developed in collaboration with NRIS staff. This serves as the scope of work and work plan for two components of this integrated project. Final database structure has been completed. The National Wetland Inventory data as well as several other base coverages have been loaded. The interactive mapping application has been developed. This project has been extended 6 months and is scheduled to be completed by December 31, 2000.

### **3. Lewis and Clark County Water Quality Protection District - Wetland Resource Assessment: A Helena Community Partnership. (DEQ contract # 280088)**

#### Project Narrative

Provides \$60,533 (+ \$20,178) to perform a baseline wetland inventory, including historical documentation, of Helena area wetland resources and produce current and historical maps, along with a “traveling road show” and educational program for both the Helena community and other interested cities across Montana. This project will use a community partnership approach including volunteers, professionals and local government agencies. The purpose is to raise awareness and increase the knowledge base of wetlands in the Helena community, as well as provide Lewis and Clark County Water Quality Protection District and Planning Department with the information necessary to forward the concept of watershed planning and protection through a better understanding of the wetland resources.

#### Project Progress

The Wetlands Community Partnership has completed the field and evaluation portion of its mapping and inventory project and have documented their work in both map form and a written report. They have collaborated with Montana Watercourse to hold 4 wetland workshops in Hamilton, Kalispell, Bozeman, and Helena this spring and have met with numerous civic groups in the greater Helena area. Each of the workshops were well received with over 200 people in attendance. This project was completed by June 30, 2000. The final project report is forthcoming.

### **4. Montana Watercourse - Information and Education for Wetland Stewardship. (DEQ contract # 280089)**

#### Project Narrative

Provides \$80,976 (+ \$48,419 non-federal match) for five information and education components. 1) Two types of educational workshops will be offered for teachers; Advanced Wonders of Wetlands (WOW) Workshops for 25 WET facilitators; and twenty-five advanced local WOW workshops conducted by these facilitators. 2) Five wetland stewardship minicourses will be developed and conducted for Montana landowners, Realtors and decision-makers in different geographic regions of the state. 3) Five mini-grants will be made available to interested local WET facilitators and

community groups to foster and conduct school and/or community "celebration" of American Wetlands Month. 4) Two types of wetland information products will be developed and disseminated during the second year of the project. These will include special topic information brochures for specific audiences on wetlands-related topics of critical concern and two public service announcements. 5) Wetland stewardship awards will be announced publicly to recognize two private landowners and/or public-private partnerships that demonstrate notable or extraordinary effort to restore, enhance or conserve Montana's wetlands.

#### Project Progress

Much activity has taken place on the 5 objectives of this project. 1) The annual Project WET Summer Workshop for teachers was held June 16-28 at Bowdoin National Wildlife Refuge with the theme "Wetlands, Wildlife and Water Quality". Ten WET and WOW! Workshops have been held for teachers in Montana and extensive planning for several 5-day Watershed Tours WET/WOW Workshops has taken place. 2) Montana Watercourse hired a full time Wetland Coordinator, Drew Overholser, in September to plan and conduct many of the wetland educational activities outlined in this and the FFY99 grant. Drew conducted 4 Wetland Stewardship Workshops, one each in the Bitterroot, Flathead, Upper Musselshell and Bozeman this spring. These were well advertised and well attended by members of the public, land owners, local government leaders and different agency staff. 3) Five Wetland Festivals have been planned, promoted and held; Butte, Belegarde, Bozeman, Scoby and Ft. Peck. 4) Two Public Service Announcements has been videotaped. One features a local rancher supporting wetlands and ranching and aired after the New Year. The other features kids talking about why they like wetlands. It will begin airing shortly. 5) The process, selection criteria, and other aspects of the Wetland Steward Award program has been determined and nominations have been sought. Unfortunately, low interest in nominations and difficulty scheduling either the Governor or Lieutenant Governor has pushed back the award schedule. Work to seek additional nominations and implement the award program will continue. This project has been extended 6 months and is scheduled to be completed by December 31, 2000.

#### **5. University of Montana, Flathead Lake Biological Station - The Hydrologic Approach to the Functional Assessment of Wetlands: Field Testing of Models and Analyses of Reference Data. (DEQ contract # 280090)**

##### Project Narrative

Provides \$68,481 (+ \$22,828 non-federal match) to provide testing and analysis of the underlying assumptions and comparative reference data of HGM model and guidebook development in the Northern Rocky Mountain Region. This project will: 1) field test the HGMA model for Intermontane Herbaceous Pothole Wetlands in the Northern Rocky Mountain Region; 2) provide guidelines for a comprehensive Herbaceous Pothole Wetland monitoring program specifically oriented toward ongoing data needs for the Montana Wetland Council; and 3) conduct an educational workshop in Helena for the Montana Wetland Council describing HGM functional assessment and the result of the field testing and analysis. Functional Assessment is required by law under Section 404 of the Clean Water Act and for purposes of wetland restoration.

#### Project Progress

All field data for this study had been completed. Analysis of these data continue. Developed and installed 30 inexpensive groundwater well for collecting shallow groundwater in 15 wetlands for chemical analysis. Water samples from the 15 wetlands were collected Summer 1999. Vegetation structure and complete soil profile descriptions were made at discharge and recharge locations of the 15 wetlands. Weekly monitoring of ponding depths and groundwater recharge and discharge of 34 wetlands using mini-piezometers continued until the first frost. Preliminary results will be presented at the North American Benthological Society annual meeting. Three papers from this study will be written. This project has been extended 6 months and is scheduled to be completed by December 31, 2000.

#### **5. Missoula Office of Planning and Grants, Floodplain Program - Missoula County Riparian Wetland Inventory and Education Program. (DEQ contract # 290053)**

##### Project Narrative

Provides \$42,087 (+ \$36,700 non-federal match) for a multi-pronged approach to understanding and protecting wetlands in Missoula County including information gathering, educational outreach, restoration of model wetlands and amending local floodplain regulations. Information gathering will include completion of the National Wetland Inventory of selected portions of Missoula County, detailed mapping of floodplain characteristics to supplement existing FEMA maps, and an intensive analysis of a wetland restoration site. Educational outreach efforts will include public service announcements, direct mailings to wetland property owners, experiential learning about wetlands and discussions between local government and property owners. The model wetland restoration will be at a publicly accessible park used for education, recreation, and research. Amendments to local Floodplain Regulations will be pursued to ensure clear policies regarding wetland protection and private property development rights.

##### Project Progress

MDEQ contracted this project to Missoula County on May 10, 1999. The County field surveyed 103 river miles on 5 local rivers and identified and evaluated 210 bank stabilization and levee projects totaling more than 20 miles of stabilized banks. Two reports titled *Inventory and Assessment of Bank Stabilization Projects on Reaches of the Clark Fork River, Bitterroot River, Blackfoot River, Lolo Creek and Nine Mile Creek in Missoula County, Montana* and *Detailed Methods and Materials for the Inventory and Assessment of Bank Stabilization Projects* have been completed and published. Two hundred copies were printed and distributed state-wide. Armed with sound data, the County Floodplain Administrator proposed amendments to the Missoula County Floodplain Regulations on February 1, 2000. After public review, the County commissioners adopted the proposed amendments March 8, 2000. The county Floodplain Administrator has discussed the project and process with the Wetlands Council at two Council meetings and with the 1st Montana Annual Association of County Floodplain Managers. County is beginning development of a database to determine all landowners with property in the floodplain.

The Montana Natural History Center's activities have also seen great success. The model wetland restoration project at Steven's Island is on track. Both the 1999 and 2000 Clark Fork Watershed festival were very well attended community-wide and included education programs involving wetlands, reptiles and amphibians, and wetland insects. The Montana Natural History Center has held riparian wetlands walks for the public and is planning for additional field trips and outdoor wetland education. This project is scheduled to be completed by May 31, 2001.

**6. Formerly MT Department of Natural Resources - Wetland/Riparian Restoration. Flathead Basin Commission - Ashley Creek Riparian and Wetland Assessment (DEQ Contract # 200086). Roosevelt County Conservation District - Big Muddy Creek Riparian and Wetland Assessment (DEQ Contract # 200083).**

**Project Narrative**

Provides \$45,734 (+ \$15,244 non-federal funds) for a wetland partnership, inventory and assessment. This project was intended to develop MDNRC partnerships with MDEQ and Local Conservation Districts to assess and improve management of degraded riparian areas and wetlands adjacent to streams, where these degraded conditions contribute to stream water quality impairment in Montana. Work was to involve: 1) development and dissemination of four Conservation district case studies along 303(d) listed streams; 2) assessment of wetland and riparian conditions and develop wetland/riparian management plans on water quality limited streams in support of DEQ's TMDL assessments and initiate implementation of the plan (i.e. BMP's) to the extent resources can be found; 3) demonstrate new technology for managing wetlands/riparian areas.

The MDNRC decided not to proceed with this project. The MDEQ advertised the availability of this project during its FFY99 grant cycle and received no response. During the FFY00 grant cycle, this project was specifically marketed to local governments, Conservation Districts, Water Quality Protection Districts and Watershed Groups. The Wetland Grant Review Committee and DEQ selected two projects for funding which fit within the original scope of the approved proposal. The Ashley Creek Riparian and Wetland Assessment project in the Flathead area and the Big Muddy Creek Riparian and Wetland Assessment project in eastern Montana adjacent the east boarder of the Fort Peck Indian reservation. These projects are funded by EPA headquarters.

**Project Progress**

These projects are now contracted. Ashley Creek project sponsors have held two meeting with the local watershed group and organized a watershed tour for project partners to discuss objectives, potential assessment areas and planning needs. Research into assessment methodology and scheduling field time is underway.

Big Muddy project sponsors have organized project partners, held a day-long training for the field inventory team, arranged and had the watershed flown and video taped and organized 3 teams for an on-the-ground field assessment. Team leaders are preparing field reports based on a common outline. The Big Muddy is being coordinated with a 319 grant with upper Big Muddy watershed in Sheridan County. Both projects are currently scheduled to be complete by June 30, 2001.

MDEQ Semi-Annual Progress Report  
EPA Wetland Protection Grant Program  
Federal Fiscal Year 1997 (7/1/97-12/30/01)  
CD 998117-05-4  
Report Date - July 1, 2000

### **FFY 1997 Grant to DEQ**

The Montana Department of Environmental Quality received a Wetland Protection Development Grant from EPA for \$349,974, as stated in the Wetland Protection Assistance Agreement awarded June 24, 1997. EPA awarded Montana an additional \$25,000 making the total FFY97 award \$374,974. This grant has been extended to December 30, 2001. This grant provided funding for six Montana wetland program development activities. All projects have been completed, two final reports are forthcoming.

#### **1. MDEQ - Wetlands Conservation Strategy Development.**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **2. Montana Watercourse - Promoting Montana's Wetland Strategy Through Information and Education. (DEQ contract # 280018)**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **3. NRIS, Water Information System - Montana Wetland Information Clearinghouse. (DEQ contract # 280017)**

##### **Project Narrative**

Provides \$40,000 (+ \$13,333 non-federal match) to establish a Montana Wetland Information Clearinghouse to provide centralized public access to wetland related information, issues and data access via an Internet site. This grant will also provide data management services by indexing relevant available data including photography, slides, remote imagery and videography sources. This grant will promote data sharing, avoidance of duplication in data collection, and advise users on data standards and appropriate applications for specific data sets.

This contract was modified on 6/29/99 to expand the project work product, extend the completion date to June 30, 2000 and increase the grant amount to \$72,792 (+ \$23,931 total nonfederal match). The modifications will allow NRIS, in cooperation with the Army Corps of Engineers, to make significant updates to the Corps 404 permit database including permit location and impact activity. They will also design and deploy an Internet based application for accessing the 404 permit data, and conduct demonstrations and train key sectors of Government involved in wetland management to use the system.

##### **Project Progress**

Water information staff has searched for wetlands data for Montana to be linked into the web page. A wetland clearinghouse web page was created and web page work was placed

on the Water Information primary web page.

[Http://www.nris.state.mt.us/wis/MWICedit.html](http://www.nris.state.mt.us/wis/MWICedit.html)

Wetland data has been linked to the web page. GIS coverage's of digitized NWI maps have been downloaded and processed, and an interactive GIS map application for displaying and querying wetlands data on the web was developed. NRIS reports and updates the Wetlands Council. The February 6, 1999 Wetland Council meeting identified a strong need for accurate permit data in Montana and to have that information accessible via the Internet. As a result, DEQ formed a data base committee and jointly developed a scope of work. DEQ contracted with NRIS to complete the activities. NRIS hired a contractor to review COE permit files back to 1990 (approximately 4,600 records) and update the RAMS data base with accurate project location information and impact activity (acres wetlands filled or linear feet river banks stabilized). Nearly all the files in the COE office have been processed.

NRIS is building a highly automated database tool to extract data conforming the data exchange format from the RAMS database and transfer to NRIS. NRIS is incorporating selected data from the RAMS database into an Internet based query system. NRIS presented a prototype of the Internet based query to the Montana Wetlands Council at the May 23, 2000 meeting. One attendee commented after the meeting via e-mail "I was extremely impressed with the Internet Spatial Query and Mapping System that NRIS has developed – what a fantastic tool."

This project is extremely exciting and will provide resource managers with spatial database information to better manage and protect wetlands. NRIS will continue to provide training to users. This project is scheduled to be completed by 6/30/00. The final report is forthcoming.

#### **4. MDEQ - Developing Bioassessment Protocols for Montana's Wetlands.**

##### **Project Narrative**

Provides \$25,000 (+ \$8,500 non-federal match) to build upon previous efforts by MDEQ to develop wetland assessment protocols using macroinvertebrates and diatoms through development of vegetation-based indices and paleolimnological assessment approaches. The contract will fund macroinvertebrate contract work on taxonomic identification and data analyses.

The macroinvertebrate and vegetation -based assessments include evaluation of HGM reference site studies by the UM-Flathead Lake Biological Station. The paleolimnological approach consists of comparison of models inferring water quality from diatom assemblages to sediment diatom assemblages; and study of closed basin ground water supported wetlands to understand natural variability of water quality and hydrogeomorphic functions.

##### **Project Progress**

EPA Headquarters Biocriteria Program has provided additional funding to ensure that

there are sufficient resources to complete two years of research. The project manager has modified the FFY 1996 and FFY 1997 grant proposals to integrate and update the work plans.

DEQ has contracted with the University of Montana Yellow Bay Biological Station to complete the fieldwork and assist in developing macroinvertebrate biocriteria for depressional wetlands.

This project will also compare HGM and Index of Biotic Integrity methods and share data that are collected to support each assessment. Fieldwork was initiated during the 1999 field season.

The identification of macroinvertebrates has been completed in all samples with the exception of the Dipterans and a few miscellaneous organisms. Data have been entered for all identifications to date. An Abstract has been submitted to the North American Benthological Society meeting scheduled for May 28-June 1. This work is scheduled to be completed by 6/30/00. A draft final report is currently being review by DEQ. The final report is forthcoming.

#### **5. University of Montana, Flathead Lake Biological Station -Testing HGM Functional Assessment Models. (DEQ contract # 280030)**

##### **Project Narrative**

Provides \$70,000 (+ \$23,334 non-federal match) to field test two HGM regional wetland functional assessment models being developed by FLBS for the U.S. Army Corps of Engineers Waterways Experiment Station; i.e. Alluvial Gravel-Bed River Floodplain Wetlands and for Intermontane Pothole Wetlands in the Northern Rocky Mountain Region. Efforts involve developing methodologies to measure Type I and II functions for both models, and collecting and analyzing data, and reporting on the correlation between the data used to calibrate the model and the data collected to measure Type I and II functions.

##### **Project Progress**

Testing of the existing Intermontane Pothole Wetland subclass model was initiated in August 1997. Data collection included Type I and Type II variables for the hydrogeomorphic assessment. A coordinated, cooperative effort with the Corps of Engineers and volunteer researchers from the University of Montana allowed sampling and 33 wetlands during the 1997 and 1998 field season. In 1998, collected data included vegetation description, plant community productivity data, wetland basin geometry, and surface water and shallow ground water levels, which were monitored weekly.

Week long workshops were held on the functional assessment of Intermontane Glacial Depression Wetlands and Intermontane Bounded Alluvial Floodplain Wetlands in July and September 1998. This project is scheduled to be completed by 6/30/99. DEQ held final payment until the QAPP revisions were made and the QAPP was approved by EPA. EPA approved the QAPP on March 10, 2000. This project has been completed.



## **6. Montana Natural Heritage Program -Wetland Inventory and Assessment. (DEQ contract # 280016)**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

MDEQ Semi-Annual Progress Report  
EPA Wetland Protection Grant Program  
Federal Fiscal Year 1996  
CD 998117-04-2 (10/1/96-6/30/01)  
Report Date -July 1, 2000

### **FY 1996 Grant**

The Montana Department of Environmental Quality received a Wetland Protection Development Grant from EPA for \$350,375 awarded on October 1, 1996. This grant has been extended to June 30, 2001. This EPA grant provided funding for eight Montana wetland program development activities. Five projects have been completed.

### **1. MDEQ -Wetlands Water Quality Biocriteria Development and Integration with HGM Wetlands Functional Assessment Methods.**

#### **Project Narrative**

Provided \$73,500 (+ \$18,375 non-federal match) for additional sampling (chemical, invertebrate) for characterizing Montana reference wetlands and developing biocriteria for wetlands, and integrating this information with HGM functional assessment procedures being developed by the U.S. Army Corps of Engineers and the University of Montana Flathead Lake Biological Station, and developing a wetland GIS database for HGM and water quality assessment.

#### **Project Progress**

The report "Development of Biocriteria for Wetlands in Montana" has recently been finished and has been submitted to EPA. A version of the report will also be published as a book chapter by Lewis Publishers. The report summarizes the wetland research conducted by the DEQ since 1992. The report has been posted on the DEQ web page. Montana State University has completed its research "Effects of Land Use on Vegetation in Glaciated Depressional Wetlands in Western Montana". A copy of the report has been sent to EPA.

A report from the Philadelphia Academy of Natural Sciences concerning research to develop diatom biocriteria for depressional wetlands has been completed. The report has been sent to EPA. Additional analysis of the data has been performed. A final draft report is currently being reviewed by DEQ. A report summarizing research using paleolimnological techniques has been completed and has been submitted to EPA.

EPA Headquarters has requested Randy Apfelbeck give a presentation of the wetland biocriteria work at a wetland conference in Quebec, Canada in August, 2000. This contract is scheduled to be completed by 9/30/2000.

**2. Montana Department of Natural Resources and Conservation - Riparian/Wetlands**

**Education. (DEQ contract # 270084)**

**Project Narrative**

Provides \$77,520 (+ \$25,840 non-federal match) for preparing and distributing 7,500 resource management calendars; and conducting 29 riparian/wetland workshops in association with the Riparian/Wetland Education Committee and County Conservation Districts, and carrying out \$11,520 of riparian/wetland activities deleted from the FY 1995 grant award for reprinting educational materials and displays for workshops and fairs.

**Project Progress**

The wetland/riparian calendar project is on schedule for completion by September 30, 2000. The contractor has worked with a review committee to find good examples of landowners to showcase in the calendar and review photos and text for the calendar. The contractor has worked within the ambitious timeline to complete the camera ready layout and printing of 10,000 resource calendars by the end of the contract. A printer has been selected. At this point, DNRC is planning to assume the cost and responsibility of calendar distribution to ensure the contract is complete on time.

Five workshops have been completed. There are nine workshops under contract and DNRC expects to sponsor the remaining workshops this summer. This project has been extended 3 months and is scheduled to be completed by September 30, 2000.

**3. The Watercourse -Phase 5: Community Based Wetland Enhancement and Protection Initiative. (DEQ contract # 270057)** This project has been previously reported as completed, please see 1/1/00 semi-annual report.

**4. Montana Watercourse -Montana Wetland Protection Foundation. (DEQ contract #270079)** This project has been previously reported as completed, please see 1/1/00 semi-annual report.

**5. Montana State Library, Natural Resources Information Service (NRIS) – Metadata Collection. (DEQ contract # 270051)** This project has been previously reported as completed, please see 1/1/00 semi-annual report.

**6. Montana Riparian and Wetland Association -MRWA Management Training. (DEQ contract # 280020)**

**Project Narrative**

Provides \$42,871 (+ \$14,290 non-federal match) to conduct workshops on wetlands ecological classification, management, function and value, restorations that were deleted from their FY 1995 grant; and to conduct workshops for training of private landowners and resource professionals in the riparian/wetland resource management, including workbook development.

Contract work plan was modified to complete the information gathering and report titled *Statewide Wetland Jurisdictional Delineation Test*.

#### Project Progress

This project collected and analyzed well information and data base entry for a final report titled *Statewide Wetland Jurisdictional Delineation Test: Final Report*. Presented information at numerous classes at the University of Montana. Worked on the Small Landowner module called *Streams, Wetlands and Riparian Areas*. Developed new materials for future workshops and training sessions and held numerous workshops and training sessions. Worked on lotic and lentic health assessment forms. This project ended 12/31/99. DEQ held payment until receipt of approved final reports. Final reports have been submitted, this project has been completed.

### **7. Montana Department of Transportation**

#### Project Narrative and Project Progress

This grant for \$17,000 is pending and will be used for wetland education, conservation and protection work in Montana.

### **8. Montana Wetlands Trust -Mitigation Banking Training (DEQ contract # 270061)**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### MDEQ Semi-Annual Progress Report

#### EPA Wetland Protection Grant Program

#### Federal Fiscal Year 1995

CD 998117-03-3 (10/1/95-9/30/00)

Report Date - July 1, 2000

### **FFY 1995 Grant to DEQ**

The Montana Department of Environmental Quality received a Wetland Protection Development Grant from EPA for \$252,990 awarded on October 1, 1995. This grant has been extended to September 30, 2000. This EPA grant provided funding for seven Montana wetland program development activities. All projects have been completed, one final report is forthcoming.

### **1. Montana Department of Environmental Quality - Wetlands Strategy.**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

### **2. Montana Department of Natural Resources and Conservation (DNRC) - Riparian/Wetlands Education. (DEQ contract #96-006 (old) #280050 (new))**

#### Project Narrative

Provide \$64,000 (+ \$21,120 non-federal match) for riparian activities, including watershed work (\$24,000), reprint brochures: "Tips on Land and Water Management", "A Guide to Stream Permitting in Montana", and "Riparian Grazing Successes" (\$20,000), and funding for riparian workshops for conservation districts (\$10,000). DNRC, DEQ, and EPA met to discuss contract objectives and activities and options to

coordinate DNRC wetland and riparian activities supported by the EPA Grant Program with the Conservation Strategy for Montana's Wetlands.

DNRC submitted a revised work plan to DEQ and EPA in October 1999 with new activities, including 1) developing a riparian/wetland module to educate small acreage landowners, 2) working with a Central Montana High School to monitor a wetland mitigation project, and 3) developing a display based on the Grazing Best Management Practices handbook.

#### Project Progress

The "Tips on Land and Water Management for Small Farms and Ranches" brochure has been reprinted and revised using agency names reflecting agency reorganizations. A new brochure titled, "Take It For Granted" was developed, printed, and distributed. This brochure describes funding programs available to Conservation Districts. Riparian workshops have been completed, a summary will be included in the final report. Six of nine modules for the Small Landowner Education Program have been tested during pilot workshops. These included: Neighbors – An Introduction to Stewardship, Water Quality and Quantity, Soils and Irrigation, Weeds, Grazing and Pasture Management, and Streams, Wetlands and Riparian Areas. The Central Montana High School Riparian Project was presented to community groups by students from the three high schools participating in the project. This project is scheduled to be completed by 6/30/00. A final report is forthcoming.

#### **3. The Watercourse - Phase 4: Wetland Leadership Training and Network Building Initiative. (DEQ contract #96-007 (old) #280051 (new))**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **4. Montana Watercourse - Montana Wetlands Models and Marvels. (DEQ contract #96-008 (old) #280052 (new))**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **5. Montana Riparian Wetland Association - Training. (DEQ contract #96-011 (old) #280054 (new))**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **6. Montana Department of Transportation - Wetland Mitigation. (DEQ contract #96-010 (old) #280053 (new))**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.

#### **7. Montana State University - Extension Forestry. (DEQ contract #96-009 (old) #280058 (new))**

This project has been previously reported as completed, please see 1/1/00 semi-annual report.